



FRCC (all campuses) to CU-Boulder Transfer Advising Guide for Civil Engineering (B.S.)

[Civil Engineering Department Website](#)

Program Overview:

Civil engineers design and supervise the construction of the buildings and infrastructure that make up our world: roads, bridges, tunnels, skyscrapers, transit systems, water treatment facilities, and offshore structures. They are problem solvers meeting the challenges of pollution, clean drinking water, climate change, energy and transportation needs, urban development, and community planning for the megacities of the 21st century.

Admission Requirements:

[Please see this website for more information regarding CU Engineering admission criteria](#)

FRCC Course Summary: (the following courses will apply directly to the degree)

***BOLD denotes admission requirement courses**

Mathematics:

MAT 2410*	Calculus 1	(5 credits)
MAT 2420*	Calculus 2	(5 credits)
MAT 2431	Calculus 3 with Engineering Applications	(5 credits)
MAT 2562	Differential Equations/Linear Algebra	(4 credits)

Science:

CHE 1111*	General Chemistry 1	(5 credits)
PHY 2111	Calc-based Physics 1	(5 credits)
<i>^ also counts for admission requirement in place of CHE 1111</i>		
PHY 2112	Calc-based Physics 2	(5 credits)
GEY 1111	Physical Geology (free elective)	(4 credits)

Engineering/Computer Science:

EGG 1000	Introduction to Engineering	(1 credit – free elective)
EGG 1060 (preferred)	Introduction to Engineering Computing	(4 credits)
<u>OR</u> CSC 1060	Computer Science 1	(4 credits)
CAD 2332 (preferred)	Civil 3D	(3 credits)
<u>OR</u> CAD 1101+1102	Computer Aided Drafting	(6 credits total)
EGG 1040	Engineering Projects	(3 credits)
EGG 2030	Mechanics of Solids	(3 credits)
EGG 2011	Statics	(3 credits)
EGG 2012	Dynamics	(3 credits)
EGG 2020	Thermodynamics	(3 credits)

Humanities and Social Sciences (H/SS):

- Up to nine (9) credit hours at the lower division (1000-2000) level
 - Six (6) credit hours the upper-division level – *typically taken at CU Boulder*
- Please consult our [CCCS humanities and social science list](#) when selecting these classes

Suggested Five-Year Course Plan for Civil Engineering

This is a suggested guide of coursework only and is subject to change. Always consult with your academic advisor for graduation planning purposes.

*denotes courses that do not apply directly to degree, other than as free electives

Front Range Community College (two years)

Fall Semester 1

Course	Course Title	Credits
MAT 1440	Pre-Calculus*	5
EGG 1000	Intro to Engineering*	1
ENG 1021	English Composition 1 (H/SS)	3
	Humanities/Social Science	3
	Total Credits	12

Spring Semester 1

Course	Course Title	Credits
MAT 2410	Calculus 1	5
CHE 1111	College Chemistry 1 (with lab)	5
EGG 1060	Engineering Computing	4
	Humanities/Social Science	3
	Total Credits	17

Fall Semester 2

Course	Course Title	Credits
MAT 2420	Calculus 2	5
CAD 2332	Civil 3D	3
PHY 2111	Physics 1	5
GEY 1111	Physical Geology	4
	Total Credits	17

Spring Semester 2

Course	Course Title	Credits
MAT 2431	Calc 3 with Engr. Applications	5
EGG 2011	Statics	3
EGG 1040	Engineering Projects	3
PHY 2112	Physics 2	5
	Total Credits	16

CU-Boulder (last three years)

Fall Semester 3

Course	Course Title	Credits
APPM 2360	Differential Eq./Linear Alg.	4
CVEN 2012	Geomatics	3
AREN 2110	Thermodynamics	3
CVEN 3161	Mechanics of Materials	3
	Total Credits	13

Spring Semester 3

Course	Course Title	Credits
CVEN 3111	Analytical Mechanics 2	3
CVEN 3313	Theoretical Fluid Dynamics	3
CVEN 3246	Intro to Construction	3
CVEN 3698	Engineering Geology	3
	Total Credits	12

CU-Boulder (last three years)...continued

Fall Semester 4

Course	Course Title	Credits
CVEN 3414	Fund. Of Environ. Engineering	3
CVEN 3323	Hydraulic Engineering	3
CVEN 3525	Structural Analysis	3
CVEN 3708	Geotechnical Engineering 1	3
	Total Credits	12

Spring Semester 4

Course	Course Title	Credits
CVEN 3227	Probability and Statistics	3
	CVEN Proficiency 1	3
	Engineering Writing Course	3
	UD Humanities/Social Science	3
	Total Credits	12

Fall Semester 5

Course	Course Title	Credits
CVEN 4897	Professional Issues	2
	CVEN Proficiency 2	3
	Technical Elective	3
	Technical Elective	3
	UD Humanities/Social Science	3
	Total Credits	14

Spring Semester 5

Course	Course Title	Credits
CVEN 4899	Senior Design	4
	CVEN Proficiency 3	3
	Technical Elective	3
	Technical Elective	3
	Total Credits	13